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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,789

06/28/2005

Jens A. Hansen

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EXAMINER

OLADAPO, TAIWO

ART UNIT

PAPER NUMBER

1771

MAIL DATE

DELIVERY MODE

02/03/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/518,789	Applicant(s) HANSEN ET AL.	
	Examiner TAIWO OLADAPO	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1771

DETAILED ACTION

1. The response dated 01/20/2011 has been considered and found to be persuasive.

Therefore the previous rejections are withdrawn and new rejections are made below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 1771

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 1 – 8, 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Partridge et al. (US 4,820,402) in view of Bauer (US 2004/0045871)

6. In regards to claim 1 – 8, 11, 13, Partridge teaches the process of hydrocracking feedstock to form middle distillates using beta zeolites (abstract, column 2 lines 65 – 68). **The hydrocracking process is used for converting hydrocarbon feedstock in the presence of hydrogen and beta zeolite catalyst which meets the limitations of claim 13.** In Example 11, Partridge teaches using a matrix having catalyst B which comprises nickel-tungsten (Ni-W) hydrogenation component, beta zeolite having silica:alumina ratio of 30:1, and alumina support (column 12 line 55 – column 13 line 55). **The nickel and tungsten components meet the limitations in claims 5, 6 and 7.** The alumina support is amorphous alumina according to the claimed limitation. Partridge teaches the zeolites of the invention can have a silica:alumina ratio of at least 50:1 (abstract), or such as 100:1, 200:1 or 500:1 **which meets the limitations in claims 1 and 4** (column 8 lines 11 – 19). Partridge does not recite the percentage of zeolite in the support matrix.

Bauer teaches middle distillate selective hydrocracking process using catalyst containing beta zeolite (title, abstract). Bauer teaches the catalyst can comprise less than 15% beta zeolite and over 50% silica-alumina in the support **which meets the limitation of zeolite beta and amorphous inorganic oxide of claims 1 and 8** [0030; claim 12]. Using the chart and formula provided by the applicants for calculating the IEC-AI in the response dated 01/20/2011, the following can be determined:

Art Unit: 1771

Partridge teaches silica: alumina ratio of 500, which relates wt ppm Na = 2000;

Bauer teaches the zeolite in the catalyst is 15% or less;

$$\begin{aligned}\text{IEC-AI} &= \frac{(\text{wt ppm Na}) \times (\text{zeolite content in catalyst support, wt \%})}{(\text{wt ppm Na in standard zeolite beta}) \times (1 \text{ wt\%})} \\ &= \frac{(2000 \times 15\%)}{(18500 \times 1\%)} \\ &= 1.62\end{aligned}$$

Therefore ion exchange capacity activity index is 1.62 or less which meets the claimed limitation. The NH₃-TPD acidity index of the invention will also be met as they depend on the ratio of silica: alumina and the % zeolite in the catalytic matrix **which meets the limitations in claims 1, 2, 3 and 11**. Furthermore, the claims of the invention provide evidence that the two acidity values are close. Since the IEC-AI values are met, the NH₃-TPD values would also be met by Partridge and Bauer combined.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the percentage of beta zeolite taught by Bauer for preparing middle distillate in the process of Partridge, as Partridge is a process for preparing middle distillates using beta zeolite.

7. In regards to claim 12, Partridge and Bauer teach the process. Partridge, in Example 11 teaches only a single type of catalyst (B) is used in the hydrocracking process to form middle distillates.

Response to Arguments

Art Unit: 1771

8. Applicants' arguments have been fully considered but they are moot in view of new grounds of rejection.

9. The applicants have amended independent claim 1 to recite less than 15% beta zeolite in the support matrix which is not taught by Partridge in view of Gentry (US 6,261,441) thus overcoming the rejections, which are hereby withdrawn.

10. The applicants persuasively argue that Fragelli (US 6,103,101) teaches away from using beta zeolite catalysts as required by the claim, which overcomes the previous rejections hereby withdrawn. However, the arguments are moot in view of rejections over Partridge in view of Bauer, as Bauer teaches a process of preparing middle distillates using beta zeolite present at the recited amounts.

11. The applicants do not disparage the reference of Partridge which is herein re-applied.

Conclusion

12. Previously indicated finality of the office action is withdrawn in view of new rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAIWO OLADAPO whose telephone number is (571)270-3723.

The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1771

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Taiwo Oladapo/
Examiner, Art Unit 1771